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EXAMINER

CAI, WAYNE HUU

ART UNIT

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2617

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/747,752	Applicant(s) CHENG ET AL.	
	Examiner WAYNE CAI	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 September 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14, 16-28, 30-34 and 52-63 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14, 16-28, 30-34 and 52-63 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-14, 16-28, 30-34, and 52-57 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-14, 16-28, 30-34 and 52-63 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Since the Applicant does not clearly define what step is taken after the determining steps has been performed (see 35 U.S.C. 112, second paragraph rejections for further details), it is unclear to the Examiner and one skilled in the art on how to make and practice the invention without clear direction. Hence, the Examiner respectfully suggests the Applicant to amend and clearly define clear to be taken when the condition is satisfied, and when the condition is not satisfied.

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4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-14, 16-28, 30-34 and 52-63 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims recite in part the limitation of "the mobile terminal determining if the mobile terminal satisfies a condition based on the at least one common feedback criterion and the mobile terminal selectively providing an enhanced channel report regarding the downlink channel based on the determining step."

Based on the claim language, it is impossible for the Examiner and one skilled in the art to understand and determine when or under what circumstance the basic channel report is provided and when or under what circumstance the enhanced channel report is provided. In other word, when the condition is satisfied, what happens? - - is the basic channel report is provided or is the enhanced channel report provided? And when the condition is not satisfied, what happens? - - is the basic channel report is provided or is the enhanced channel report provided?

The Examiner respectfully suggests the Applicant to clearly define what should be done after the determining step has been performed.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1, 3-8, 21, 23, 24, 52, 58 are rejected under 35 U.S.C. 102(e) as being anticipated by Bark et al. (hereinafter “Bark”, US 6,445,917).

Regarding claims 1, Bark discloses a method of reporting channel information in a wireless communication system, comprising:

a mobile terminal normally providing a basic channel report, said basic channel report at least partially characterizing a downlink channel (fig. 5, block 78 illustrates the mobile terminal a measurement report (considered as a basic channel report) back to the base station or network);

said mobile terminal receiving at least one common feedback criterion broadcast to a plurality of mobile terminals (fig. 5, blocks 72-76 illustrates the base station or network control node transmits the measurement control message to more than one mobile terminals. Also see col. 8, lines 27-47);

said mobile terminal determining if said mobile terminal satisfies a condition based on said at least one common feedback criterion (fig. 5, block 78 illustrates that the mobile terminal determines whether the events have occurred and triggers the transmission of the measurement reports means that the mobile terminal determines whether the condition is satisfied or not based on the common feedback criterion).

The Examiner notes that the “if” statement as recited within claim is the conditional limitation and is not positive recitation. Also, even though the Applicant recites that the enhanced channel report regarding the downlink channel is selectively provided based on the determining step; however, it is unclear to the Examiner and one skilled in the art under what circumstance, the enhanced channel report is selected. In other words, is the basic channel report/the enhanced channel report selected when the condition is satisfied or is the basic channel report/the enhanced channel report selected when the condition is not satisfied?

The Examiner respectfully suggests the Applicant to clearly and positively define the claim limitation. For purpose of rejections based upon the current claim language, the Examiner broadly and reasonably interprets that the basic channel report is selected when the condition is satisfied. In turn, the enhanced channel report is not necessary to be selected. Furthermore, one skilled in the art would unhesitatingly conceptualize that the enhanced channel report provides a more detailed view of the downlink channel than the basic channel report.

In light of Bark's disclosure, Bark clearly teaches or suggests that the transmission of a measurement report is triggered when events have occurred (see column 8, lines 46-50. That teaching clearly reads on the limitation of “selectively providing a channel report, either basic channel report or enhanced channel report, based on the determining step”, and it happens to select the basic channel report based on the determining step rather than enhanced channel report in this case. Also, the teaching of enhanced channel report is not required.

With further regard to claims 21, 52, and 58, features of claim 1 are similarly recited within claims 21, 52, and 58; therefore, the Examiner rejects these claims at least for the same reasons set forth above. In addition, it is inherent to include transmitter, receiver, processor for processing and implementing the method of claim 1.

Regarding claim 3, Bark discloses all limitations recited within claims as described above. Bark also discloses wherein said at least one common feedback criterion comprises at least one threshold (fig. 5, block 74).

Regarding claim 4, Bark discloses all limitations recited within claims as described above. Bark also discloses wherein said at least one common feedback criterion comprises a channel quality indicator threshold (fig. 5, block 74 discloses block error rate, bit error rate, SIR).

Regarding claim 5, Bark discloses all limitations recited within claims as described above. Bark also discloses wherein said at least one common feedback criterion comprises a throughput level threshold (fig. 5, block 74 discloses traffic volume).

Regarding claim 6, Bark discloses all limitations recited within claims as described above. Bark also discloses wherein said at least one common feedback criterion comprises at least one range (col. 8, lines 27-65).

Regarding claims 7, and 23, Bark discloses all limitations recited within claims as described above. Bark also discloses wherein said basic channel report comprises a channel quality indicator (fig. 5, block 74 and its descriptions).

Regarding claims 8, and 24, Bark discloses all limitations recited within claims as described above. Bark also discloses wherein normally providing a basic channel report comprises normally providing a basic channel report on a periodic basis (col. 7, lines 13-27).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 2, 9-14, 18-20, 22, 25-28, 32-34, 53-57, and 59-63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bark et al. (hereinafter "Bark", US 6,445,917) in view of Sporre (US 5,966,657).

Regarding claims 2, and 22, Bark discloses all limitations recited within claims as described above, but does not expressly disclose features of this claim.

In a similar endeavor, Sporre discloses a method and system for radio frequency measurement and automatic frequency planning in a cellular radio system. Sporre also discloses wherein providing an enhanced channel report comprises providing an enhanced channel report that is a superset of said basic channel report (fig. 6, block 53 and its descriptions).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine these two references together.

The motivation/suggestion for doing so would have been to provide the base station or network the necessary information in order to make decision more effectively.

Regarding claim 9, Bark and Sporre disclose all limitations recited within claims as described above. Sporre also wherein said mobile terminal selectively providing an enhanced channel report based on said determining comprises said mobile terminal selectively providing, on a periodic basis, either said basic channel report or said enhanced channel report based on said determining (fig. 6, blocks 47, 49, and 53).

Regarding claims 10, and 25, Bark and Sporre disclose all limitations recited within claims as described above. Sporre also discloses wherein basic channel report comprises information related to a first set of one or more channel parameters of said downlink channel (fig. 6, block 47), and wherein said enhanced channel report comprises further information on said first set of channel parameters (fig. 6, blocks 49 & 53 and its descriptions).

Regarding claims 11, 12, 26, and 27, Bark and Sporre disclose all limitations recited within claims as described above. Bark also discloses wherein said basic channel report comprises information related to a first set of one or more channel parameters of said downlink channel. Even though the cited reference do not expressly disclose wherein said enhanced channel report comprises information related to a first/second set of one or more channel parameters of said downlink channel different from said first set of channel parameters; however, it is obvious to one skilled in the art to include any information or parameters as desired.

The motivation/suggestion for doing so would have been to selectively receive desired information from mobile terminals in order to make decision or process data effectively.

Regarding claim 13, Bark and Sporre disclose all limitations recited within claims as described above. Bark also discloses wherein said basic channel report comprises a channel quality indicator (fig. 5, and its descriptions). Sporre also discloses wherein said mobile terminal selectively providing an enhanced channel report based on said determining comprises said mobile terminal selectively providing either said basic channel report or said enhanced channel report based on said determining (fig. 6, steps 47, 49, and 53).

Regarding claims 14, and 28, Bark and Sporre disclose all limitations recited within claims as described above. Sporre also discloses providing an explicit indication of the presence of said enhanced channel report when said enhanced channel report is provided (fig. 6, steps 49 & 53).

Regarding claims 18-20, and 32-34, Bark and Sporre disclose all the limitations recited within claims as described above, but do not specifically disclose the various combinations of providing a basic channel report over a first logical channel and an enhanced channel report over said first logical channel, at least a second logical channel or where providing over the second logical channel includes selectively providing over said first logical channel and said second logical channel. However, one of ordinary skill in the art at the time the invention was made would have understood that the choice of logical channel for sending either of the basic channel report or the

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enhanced channel report would be based on resource allocations and volume traffic within the system at the time the given report was to be sent as well as the required bandwidth and necessary channel characteristics required for the reporting channel in view of the reports contents. Therefore, one of ordinary skill in the art at the time the invention was made would have known that various report schemes including various logical channel combinations would be used to provide the basic channel report and the enhanced channel report as claimed, depending on the system requirements at a given time and system loading.

Regarding claims 53, and 59, Bark and Sporre disclose all limitations recited within claims as described above. Bark also discloses wherein determining at least one common feedback criterion comprises determining at least one common feedback criterion based on at least a desired amount of enhanced channel reports (it is obvious that all of these conditions are predicated on the idea of limiting or having an ideal number of reports so that unnecessary signaling can be reduced and network optimization can be obtained).

Regarding claims 54, and 60, Bark and Sporre disclose all limitations recited within claims as described above. Bark also discloses wherein determining at least one common feedback criterion based on a desired amount of enhanced channel reports comprises determining at least one common feedback criterion based on said desired amount of enhanced channel reports and a data throughput rate (see examples above and figures 6 to 15).

Regarding claims 55, and 61, Bark and Sporre disclose all limitations recited within claims as described above. Bark also discloses wherein determining at least one common feedback criterion based on a desired amount of enhanced channel reports comprises determining at least one common feed back criterion based on said desired amount of enhanced channel reports and at least one reported channel quality indicator (see examples above and figures 6 to 15).

Regarding claims 56, and 62, Bark and Sporre disclose all limitations recited within claims as described above. Bark also discloses wherein determining at least one common feedback criterion based on said desired amount of enhanced channel reports and at least one reported channel quality indicator comprises determining at least one common feedback criterion based on said desired amount of enhanced channel reports and a plurality of reported channel quality indicators (see examples above and figures 6 to 15).

Regarding claim 57, and 63, Bark and Sporre disclose all limitations recited within claims as described above. Bark also discloses an amount of data queued at said base station for transmission to a plurality of said plurality of mobile terminals (the traffic volume which obviously would include a consideration of data queued at the base station).

10. Claims 16-17, and 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bark et al. (hereinafter "Bark", US 6,445,917) in view of Sporre (US 5,966,657), and further in view of Seo et al. (hereinafter "Seo", US 2003/10123396).

Regarding claims 16, 17, 30, and 31, the combination of Bark and Sporre teaches all the limitations recited within claims as described above, but does not specifically disclose employing a first spreading factor when transmitting said basic channel report and indicating the presence of said enhanced channel report by employing a different second spreading factor or pilot pattern when said enhance channel report is transmitted (than when said basic channel report is transmitted).

However, Seo teaches in, for example, Figures 4 a way of off-setting via a different period the CQI information on the uplink HS-DPCCH channel and in Figure 9 the method of actually achieving this by using a mobile terminal to indicate the presence of specific CQI information--refreshment or refinement. See Figures 4 and 9 and the corresponding descriptions.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bark and Sporre by using the method of Seo to indicate the presence of the enhanced channel report by using two different spreading factors because the method of Seo indicates to the base station the type of CQI information being transmitted (in Seo, refinement or refreshment). See Figure 4.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WAYNE CAI whose telephone number is (571)272-7798. The examiner can normally be reached on Monday-Thursday from 8:00 a.m. to 6:00 p.m.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexander Eisen can be reached on (571) 272-7687. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Wayne Cai/
Examiner, Art Unit 2617

/Alexander Eisen/
Supervisory Patent Examiner, Art Unit 2617